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ABSTRACT

A study examined the attitudes of Oregon employers toward vocational education and employment and training programs in the state. During the study, researchers conducted interviews with representatives of the 10 largest companies in Oregon and mailed surveys to a random sample of approximately 1,500 employers as well as to 140 employers who were nominated by community colleges throughout the state as employing the largest number of vocational education completers. The majority of those employers interviewed were most satisfied with new employees who had vocational training from community colleges and apprenticeship training. These same employers were less satisfied with employees who had vocational training from high schools and private vocational schools. Included among the common problems of new employees that were mentioned by the employers were weaknesses in the basic skills, poor work habits, and a lack of understanding of the world of business. The employers felt that vocational students need additional training in computer literacy, preparation for lifelong learning, basic economics, and time management. A third of those employers surveyed stated that their companies are currently providing vocational students with work experience, and at least 20 percent were serving on advisory committees and recommending what to teach in vocational courses. (MN)

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SURVEY FINDINGS OF OREGON EMPLOYERS' ATTITUDES REGARDING VOCATIONAL EDUCATION AND EMPLOYMENT TRAINING PROGRAMS

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Education and Work Program
Northwest Regional Educational Laboratory

February 1984

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OREGON EMPLOYER SURVEY

EXECUTIVE SUMMARY

Purposes for the Study

During the summer and fall of 1983, the Northwest Regional Educational Laboratory (NWREL) conducted a statewide study of employer attitudes. This study was funded by the Oregon Department of Education to determine employer: (1) attitudes toward vocational education and employment and training programs, (2) training needs, and (3) willingness to work with schools in improving vocational education. Perceptions of vocational education were gathered for secondary, postsecondary and private school programs.

Employers Surveyed

Previous studies have focused only on employer ratings of specific vocational education completers whom they hired. In contrast, this study involved interviews with the ten largest companies in Oregon and a mailed survey to a random sample of approximately 1,500 employers and to 140 employers who were nominated by community colleges throughout the state as employing the largest number of vocational education completers.

Personal interviews were completed on site by NWREL staff with personnel officers and with supervisors in eight of Oregon's ten largest companies. They included financial institutions, utility companies, the wood products industry and electronics firms.

An Oregon Business Survey was mailed to a sample of 1,547 employers throughout the state and 814 (53 percent) were returned as useable data. The sampling of these employers and mailing out of these booklets were performed by the Oregon Employment Division. Employer units were sampled by size, standard industrial classification of the firm, and geographic region of the state. Seventy-six percent of the surveys were completed by company executives, nine percent by supervisors and the remainder left their title blank or indicated "other." Twenty-three percent of the employers returning their survey represented firms employing 1 to 9 people, 30 percent had 10 to 49 people, 25 percent had 50 to 249 people, and 19 percent had 250 or more employees.

The largest category of employers were services (21 percent), wholesale and retail trade (15 percent), government (13 percent) and manufacturing (11 percent). Regions of the state were represented in proportion to the number of companies in each region.

A draft employer interview guide and the mail questionnaire were developed by NWREL after a careful review of previous employer studies by other researchers. The drafts were reviewed by the Oregon Department of Education and a project Steering Committee. This committee consisted of representatives from business and industry, community colleges, high school vocational programs, employment and training programs, the state legislature, Oregon Department of Education, the Economic Development Council, and the State Employment and Training Coordinating Council. Because the results of this study have implications for many groups in Oregon, it was important to have broad representation on this committee. A revised copy of the instruments was then pilot-tested with a group of employers in the Portland and Salem areas and final copy was printed at NWREL.

Employer Interview Findings

A summary of personal interview findings with representatives of eight of Oregon's ten largest companies is shown in the statements below.

- Employees receiving high school and/or postsecondary vocational training in specific job related skills were generally noted proficient in these areas.
- Because of Oregon's recent weak economic condition, most companies hired far fewer entry level workers than in past years.
- Except for high technology firms, most employers were not sure which employees had participated in vocational education programs.
- Employer expectations for entry level workers differed depending on whether employees were considered temporary (as in some service based firms) or permanent (as in some manufacturing firms).
- Employers were most satisfied with new employees who had vocational training from community colleges and apprenticeship programs and less so with employees who had training from high schools and private vocational schools.
- New vocationally trained employees came primarily from the business and office area and from the technical area.

- Common problems of new employees were noted, especially in their performance in basic skills (particularly oral and written communications), work habits, and a lack of understanding about the "world of business." Also mentioned was the lack of ability to "think" and solve problems.

- Employers felt vocational students needed additional training in: computer literacy, preparation for lifelong learning, better understanding of how business operates, basic economics, basic written and oral communications skills, and the ability to budget time effectively.

Employer Questionnaire Findings

Here is a summary of the mailed survey findings from a random sample of 814 Oregon employers.

- When asked about problems noticed in many new employees about half of the employers indicated lack of acceptable work habits. A quarter or more of the employers mentioned lack of job skills and knowledge, inadequate writing skills, excessive tardiness and absenteeism, and lack of work experience.

- Of the employers responding, only a third considered themselves familiar with vocational programs.

- Only a quarter of the employers reported hiring people from vocational and training programs in the past three years and only eight percent reported hiring private vocational school completers.

- Approximately 20 percent of the employers felt qualified to rate the technical skills, work attitude and work quality of employees who had completed vocational and training programs. Vocational completers from community colleges and from private vocational schools were rated highest, followed by high school vocational education and then employment and training programs. Over 80 percent of the community college and private vocational school completers were considered to have good or very good work attitude. Sixty five percent of the high school vocational completers and 56 percent of the employment and training program completers were rated good or very good in work attitude.

- At least 65 percent of employers felt that individuals who do not go on to college should have marketable skills and that older workers should have access to training for entry or reentry into the job market.

- A third of the employers stated their companies are currently providing vocational students with work experience and at least 20 percent were serving on advisory committees and recommending what to teach in vocational courses. At least a third of the employers indicated a willingness to serve on advisory committees, recommend what to teach in vocational courses, and suggest new vocational courses.

- The number of employers willing to work with the schools was greater than the number currently doing so in 16 out of 17 ways listed on the survey. The exception is willingness to provide equipment and materials. Some employers felt tax incentives in Oregon are needed to encourage employers to make donations of new equipment.

- Areas where there were at least twice the number of employers willing to support vocational education than were currently doing so were: recommending equipment and materials to be used, reporting employment status and job performance of vocational completers, helping to select new vocational teachers, and releasing employees to teach vocational courses. These would seem to be fruitful areas for educators to take greater advantage of the private sector's offer to help.

- When asked in an open-ended question to identify specific curriculum topics they would like to see added to vocational education the top three responses were: basic skills, computer literacy and work values. This pattern was repeated regardless of whether employers were responding in terms of training for new employees they might consider hiring or when asked in terms of their company's existing employees.

- Employers were asked to write down their suggestions for improving vocational education. Major themes reflected were for vocational educators to improve communications with business people and listen to their training needs, increase public awareness of vocational programs, and improve basic skills and work attitudes of students.

- No significant differences were found in overall rating of employees with previous vocational training when analyzed by company size, standard industrial classification or geographic area of the state with one exception. Employers in some geographic areas rated community college vocational completers more highly than did employers in other geographic areas.

- No significant differences were found in employer ratings of the currentness of the vocational or training program courses when analyzed by company size, standard industrial classification, or region of the state with one exception: vocational courses at the community college level were rated as significantly more up-to-date by companies with 50 or more employees than by smaller companies.

Conclusions and Recommendations

The willingness of vocational and training program staff to work with business people may be one of the best kept secrets not only in Oregon but in the rest of the country. The results of this study highlight the need for better communications and suggest some concrete areas where the business community is willing to pitch in. Recommendations from this study are focused on four groups: (1) vocational and training administrators, (2) employers, (3) legislators, and (4) vocational researchers.

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Completion of this study could not have occurred without the cooperation and support of many individuals and organizations. We wish to thank the Division of Vocational Education of the Oregon Department of Education for funding this study and Wanda Monthey of the Department who served as the project monitor and provided excellent coordination. Tom Meier of the Oregon Department of Education assisted with some of the data analysis runs. Ed Bissell of the Oregon Employment Division coordinated their department's subcontract with the Northwest Regional Educational Laboratory (NWREL) for drawing the stratified random sample, collecting employer responses and for data entry. His role in the design and carrying out of the study was critical. John Pendergrass of the Washington County Education Service District provided important suggestions in the early design of the study.

A broad-based project Steering Committee was of great assistance in refining the final set of questions used in the survey and in developing implications and recommendations of the study. The members of this Steering Committee were Ed Bissell, Occupational Data Coordinator for the Oregon Employment Divison; Phil Bladine, Chairman of the Economic Development Commission; Marilyn Davis, Regional Coordinator, Multnomah County Education Service District; Dan Dunham, Executive Director, Oregon Alliance for Program Improvement; Mel Earle, President, Technical Training Service; Nancy Hargis, Director, Oregon Occupational Information Coordinating Committee; Rick Kelly, Distributive Education teacher, Aloha High School; Karen Larson, Assistant to Representative Larry Campbell; Ellsworth Mayer, Dean of Academic Planning and Research, Blue Mountain Community College; Holly Miles, State Job Training Administrator, Office of Intergovernmental Relations, Executive Department; Wanda Monthey, Program Analyst, Oregon Department of Education; John Pendergrass, Regional Coordinator, Washington County Education Service District; Betty Pritchett, Chairperson, State Advisory Council for Vocational Education; Joan Stoddard, Coordinator, Division of Vocational Education, Oregon Department of Education; William Anton, Director of Apprenticeship and Training, Bureau of Labor and Industries; George Warren, Assistant Dean of

Trade and Industry, Clackamas Community College; Paul Williams, instructor, Portland Community College and Jack Zimmerman, Associated Oregon Industries.

Credit for the excellent typing of the survey instrument and final report goes to Charline Nemeth of the NWREL Education and Work Program.

INTRODUCTION

In planning or modifying vocational education and training programs, educators, legislators, employers and the community must be informed about and responsive to changes in the political and economic climate. In Oregon the Department of Education identified a need to determine: (1) employer perceptions of the quality of existing vocational and training programs and of the adequacy of preparation of students being trained; (2) the types of current and desired employer participation in vocational education, and (3) employer perceptions of deficiencies noted in a substantial number of new employees in their businesses. This report describes the procedures used and findings resulting from a study designed to address these issues.

Several limitations in previous studies of employer views on vocational education have been noted and an attempt made to correct these in the present study. Previous studies have generally focused on only one or two delivery strategies for programs and thus did not allow a comparison of employer perceptions across various delivery strategies. In the present study, our steering committee felt it important that we examine vocational training provided through high schools, community colleges, private vocational schools, and employment and training programs. Thus, we looked at all four delivery strategies.

Another limitation in some previous studies has been to survey only those employers whose vocationally trained employees gave permission for survey participation due to legal implications. A positive bias may be built into such responses because a student who felt he or she had not performed well would be unlikely to allow an employer to be contacted. This study avoided such a bias by surveying a stratified random sample of employers throughout the state.

A third limitation of employer surveys which are intended to reach a cross-section of employers throughout a state is the problem of identifying a valid and current data base of employers organized by size of company and Standard Industrial Classification (SIC). The most complete listing of employers is the official, but confidential, record maintained by the Oregon Employment Division. This record is based on all employers from whom unemployment insurance is collected and includes government agencies, nonprofit organizations and the self-employed. In order to use such a

listing without violating confidentiality requirements, we contracted with the Oregon Employment Division to draw the stratified random sample (described in the methodology section), to mail out the surveys and follow-up mailings, to collect the responses and to prepare a data tape that did not reveal the names of any employers surveyed.

METHODOLOGY

Study Limitations

Although we were able to avoid some problems encountered in earlier employer surveys, we encountered our own set of limitations. A number of respondents had difficulty completing the survey either because they were unfamiliar with vocational education or because they were unclear about which of their employees had received vocational training and which had not. However, these observations themselves were important because they indicated a general lack of awareness about vocational education programs.

Despite a postcard follow-up and a second mailing of the survey to nonrespondents, the overall response rate to the survey was only 53 percent. Limited time and resources prevented the Employment Division from conducting telephone calls to a sample of nonrespondents to determine their reasons for not responding. In written comments and telephone calls received from employers, however, the most frequently stated reasons for not responding were either that their businesses hired no vocationally trained people or that they were not familiar with vocational education.

The limitations of mail surveys were balanced in this study with personal on-site interviews by staff from the Northwest Regional Educational Laboratory (NWREL) with personnel officials and on-line supervisors in the 10 largest companies in Oregon. The findings from these interviews are reported later in this report.

Research Methods

This study was conducted by the Northwest Regional Educational Laboratory under a contract with the Washington County Education Service District and the Oregon Department of Education. The design called for a mailed survey and personal interviews with the 10 largest companies in Oregon. The Oregon Employer survey was mailed to a random sample of approximately 1,500 employers throughout the state proportionately stratified by Standard Industrial Classification (SIC), by size of company and by 16 geographic regions of the state (corresponding to community college boundaries). The Oregon Employment Division was contracted to use their current records for drawing the sample

proportionately to the total population of 67,000 employer units within the state. To preserve confidentiality of the records, the Employment Division also mailed and collected completed responses.

In addition to the randomly-sampled employer units, 140 additional employers were surveyed. These companies were nominated by the community colleges throughout the state as employing the largest number of people completing vocational education programs. Nominations were received from each of the community colleges. This list of 140 employers was checked against the random-sample list to avoid duplication of mailings.

Because 10 companies in Oregon employ a total of over 55,000 people, it was determined that personal interviews with both the personnel officials and supervisors in each company were important to the study. All 10 companies were contacted by letter and telephone.

Drafts of the Oregon Employer Survey and interview guide were developed by NWREL and reviewed by the Oregon Department of Education and a project steering committee. The steering committee included representatives from business and industry, community colleges, high school vocational programs, employment and training programs, the state legislature, the Oregon Department of Education, the Oregon Occupational Information Coordinating Council, the State Advisory Council for Vocational Education, the Economic Development Council and the State Employment and Training Coordinating Council. Because the results of this study have implications for many groups in Oregon, it was important to have broad representation on this steering committee. The committee also reviewed draft findings and made recommendations.

The revised mail survey and interview guide were pilot-tested with six employers and final corrections were then made. The surveys were printed by NWREL and mailed by the Oregon Employment Division. The initial mailed survey was accompanied by a cover letter from the State Superintendent of Public Instruction. About a month after the first mailing, a reminder postcard was mailed to firms which had not responded. This postcard gave employers a NWREL telephone number to call if they had problems or questions completing the survey. About 20 employers called. Some indicated they had never received the original survey; others indicated they had not hired employees in several years.

Related Studies

Findings from a number of other studies of employer perceptions of vocational education were considered in the design of the Oregon Employer Survey. In comparing employer ratings of high school and postsecondary vocational education, a national sample of manufacturers (Nunez and Russell 1982a) and state legislators (Nunez and Russell 1982b) gave higher grades to postsecondary graduates. This rating probably reflects the greater maturity level of postsecondary students and the higher skill level generally provided by training. A major portion of the general public (86 percent) and school board samples (77 percent) endorsed the provision of vocational programs in schools (Nunez and Russell 1983).

The study by Nunez and Russell (1983) of the types of collaboration provided by manufacturers indicated that providing work experiences for vocational students is most frequently practiced (21 percent). Manufacturers' willingness to engage in collaborative activities with schools far surpassed reported actual involvement. The researchers concluded that "vocational education has room to benefit by becoming more actively involved with state legislators and manufacturers."

Both the survey of manufacturers and legislators indicated a need for vocational education to improve "by emphasizing basic skills at both the secondary and postsecondary levels, by providing work experience for students at the postsecondary level, and by ensuring that noncollege bound students have access to vocational education. Manufacturers reaffirmed their belief in the importance of employability skills training at the high school. Agreement was also high for increasing vocational courses at the postsecondary level, involving employers in the evaluation of training, and insuring that adults have access to training for job re-entry." (Nunez 1983, p. 7.)

Information about ways to improve vocational education was provided by the survey of manufacturers and state legislators. Among the most often reported suggestions were:

- Involve employers in the planning, development, and evaluation of vocational education
- Stress the teaching of basics (reading, writing and arithmetic)

- o Teach both employability and occupational skills
- o Provide work experience as a part of vocational education
- o Update vocational programs (McCaslin, 1982, p.12)

A 1981 Metropolitan Portland labor survey of over 1,800 empoyers focused exclusively on "entry-level" positions. Findings from this study included that:

- o Workers in larger firms have significantly more access to training opportunities than do those in smaller ones
- o Few businesses mentioned either CETA or the community colleges as a source of entry-level job applicants
- o Only 25 percent of the firms had worked with CETA and 31 percent had worked with community colleges in training and/or placement
- o Deficiencies noted by employers most often in job applicants were in personal behavior (35 percent), specific skills (19 percent), basic skills (18 percent) and lack of experience (11 percent)

A study of employer attitudes toward high school vocational education was conducted by NWREL for the Chehalis, Washington School District (McClure and Owens, 1983). Employers completing the survey generally represented smaller companies employing fewer than 50 people. The majority of employers felt unable to rate the performance of high school vocational completers or the features of the high school vocational education program. Employer suggestions for improving vocational education included closer contact between the schools and business; better communication about what vocational education is doing; providing on-the-job training for students; increasing awareness of the world of work; holding a job fair and improving students' mathematics, communication and penmanship skills . (Page C-1).

The 14th Annual Report of the Oregon State Advisory Council for Career and Vocational Education, (SACCVE) published in December 1983, contains a summary of 15 forums held by SACCVE throughout Oregon. These forums were attended by 1,275 people, 570 of whom were from business,

industry and labor. Their summary includes three points which are also reflected in this employer study--

- o Business is interested in helping the educational system change to meet the emerging needs
- o Vocational teachers need to continually up-date their skills, and this is one area where business can provide invaluable assistance
- o How can schools help students develop a better "work ethic" was a constantly recurring discussion topic (p. 21)

In a recent survey of a sample of 172 firms in the Los Angeles area, Wilms (1984) found minimum requirements for hiring called for: less education than a high school diploma (in 34 percent of the cases), a high school diploma (34 percent), work experience only (19 percent), and a postsecondary credential (in 9 percent). The most important factors in job success, in the opinion of these employers, were good work habits and attitudes (63 percent), technical job skills (23 percent) and linguistic and computational abilities (14 percent).

Wilms makes three recommendations for vocational education. First, secondary vocational education should be reformed away from specific skills training toward bridging the gap between theory and practice. Secondly, he suggests that employer-based skills training programs be created. Finally, he proposes that more attention be paid to the needs of small firms for workers with specialized skills.

In 1983, the Advisory Council for Technical Vocational Education in Texas completed a statewide survey of employers (ACTVE, 1983). Employers were asked to rate the importance of education, training, attitudes, etc., to the acceptance or rejection of job applicants and to indicate areas in which improvement is needed. They received 1,143 responses back from 5,000 surveys that were mailed. Reasons for rejecting job applicants were: (1) history of job-hopping, (2) lack of job related skills, (3) incomplete or poorly filled out job application form, (4) little or no work experience, and (5) health record.

The Texas employers felt vocational preparation programs would help students improve in: speaking and writing effectively, work habits, concern for productivity, dependability, and ability to read and apply printed matter required for the job.

FINDINGS

The findings from this study are discussed in the two following sections: (1) the interviews with the Oregon's largest employers and (2) the mail survey findings.

Interviews

NWREL staff completed interviews with eight of the ten largest companies in Oregon. The identification of those companies was based on records maintained by the Oregon Employment Division. The Division sent letters to each company explaining the purpose of the study and requesting permission to release company names to NWREL in order to schedule interviews. The eight companies included in the study included financial institutions, utility companies, wood products industry organizations and electronics firms. Two companies were not included in the study: one did not have a centralized approach for hiring employees and the other preferred not to be included in the survey. Data in this report are based on interviews with eight executives or personnel officers and nine supervisors (one company had two supervisors they felt should be included in the study).

All interviews were conducted on site at company offices. Each interview lasted approximately one hour. Questions were designed to solicit information about the number of vocational education program completers the company had hired in the past three years, the general levels of satisfaction with the vocational education program completers and some overall perceptions about how vocational education and business might work together in the future.

Personnel officers or company executives were asked to respond to the questions on behalf of the entire organization or at least for that part of the company for which they had responsibility. Supervisors were asked to respond to the questions based only on the unit or division for which they had responsibility.

Results

A number of factors which affected the results of the Oregon Employer Survey are important to note. Most importantly, the poor condition of Oregon's economy for the past three years has severely limited hiring by

each of the large employers. As a result, fewer entry level workers have been hired. Additionally, when job openings do occur, former laid off employees are generally given preference for those positions.

Secondly, most of the employers interviewed do not maintain records on whether or not their employees participated in a vocational education program prior to hiring. The only exception was in the high-technology firms where many technicians are hired directly from vocational education programs at community colleges or four-year institutions. Because employers often don't know whether or not employees have had vocational education training, the numbers provided in response to NWREL's questioning were typically estimates.

Finally, there are differences in the expectations of employers for entry level employees. For example, employers in the retail sales business usually hire individuals as clerks, etc., on a part-time basis. Many of these employees are high school students who are college bound, or college students who are earning money to stay in school. These students are generally working for income, not for career development. They differ from many of the individuals who are hired by manufacturing firms where employment may be viewed as the first step on a career ladder. A number of manufacturing firms attempt to promote from within employee ranks; consequently, their views on employee performance differ in some respects from retail-or service-based firms.

The results of these interviews are described in the following pages. The responses of the executives and personnel officers have been separated from those of the supervisors for analysis, although in most areas the response trends were similar.

For the purposes of these interviews, employers were asked to distinguish among five different levels of vocational training:

a. High School
b. Community College
c. Private Vocational Schools
d. Employment and Training Programs
e. Apprenticeship Programs

Each was asked to estimate the number of former vocational education students their company had hired from each of the five levels. Unfortunately, the respondents were unable to distinguish among

individuals hired directly from a vocational program and individuals with vocational training and interim experience. Many were unable to provide even estimates of the number of individuals hired with vocational education experience. Table 1 indicates the findings from those employers responding to this question.

TABLE 1

INTERVIEW FINDINGS ON EMPLOYMENT OF FORMER VOCATIONAL EDUCATION STUDENTS BY LEVEL OF EDUCATION

Level	Average Number Employed	Range	Number of Respondents
Executives/Personnel Officers			
High School	93	45-135	3
Community College	168	135-200	2
Private Vocational School	36	0-70	3
Employment and Training Programs	31	0-75	3
Apprenticeship Programs	9	0-15	3
Supervisors			
High School	18	0-35	5
Community College	21	0-60	5
Private Vocational Schools	4	0-20	5
Employment and Training Programs	1	0-3	5
Apprenticeship	0	0	5

Respondents were also asked to rate the job performance of former vocational education program students from each of the levels using a rating scale of very good, good, fair, poor and very poor. Table 2 summarizes the responses to this question by converting them to a five point scale with "very good" valued at five points, "very poor" valued at one point.

TABLE 2

EMPLOYER SATISFACTION WITH NEW VOCATIONALLY-TRAINED EMPLOYEES

Level	Mean Rating	Number of Responses
Personnel Officers		
High School	3.3	6
Community College	4.5	6
Private Vocational Schools	3.0	6
Employment and Training	3.5	4
Apprenticeship	4.5	4
Supervisors		
High School	3.5	4
Community College	5.0	4
Private Vocational Schools	4.0	3
Employment and Training	4.0	2
Apprenticeship	No Responses	

Table 2 indicates employer satisfaction occurs more frequently with employees who received vocational training in community colleges and through apprenticeship programs.

The third question asked each person interviewed to identify vocational areas in which new employees had generally received their training. The responses are summarized in Table 3.

TABLE 3

AREAS OF VOCATIONAL TRAINING RECOMMENDED FOR NEW EMPLOYEES

Area of Training	Responses: Personnel Officers	Responses: Supervisors
Agriculture and Forest Products	1	0
Business and Office	7	2
Distributive Education	2	0
Health Occupations	1	0
Home Economics Occupations	0	0
Technical	7	2
Trade and Industry	4	0
Others		
PCC Banking Program	1	0

Table 3 indicates that vocationally trained employees hired by Oregon's largest companies come from training programs in two major areas: (1) technical and (2) business and office. This finding is consistent with vocational education enrollment patterns.

The fourth question asked if there had been any common problems or inadequacies in the skills, attitudes or performance of new employees. The responses to these questions were almost universally similar, and problems can be categorized into three general areas: (1) poor performance in basic skills, particularly oral and written communications; (2) poor work attitudes and (3) a general lack of understanding about the "world of business." A discussion of each area follows.

Basic Skills. Virtually all employers interviewed indicated that many entry level employees were deficient in basic skills such as reading, writing and computing. In addition, many employers expressed concern over individuals being able to transfer skills to the work environment. The lack of ability to "think" and solve problems among recent high school and community college graduates was frequently cited. Employers were less critical of the community college program completers than of individuals with only high school training.

Most of the respondents indicated that when employees had received training in specific job-related skills, either in high school or community college, they were usually very proficient in those skill areas. However, the employees also had trouble generalizing those skills to other tasks. Employers were critical of the ability of new employees to read written directions, to communicate effectively in writing (citing both grammatical and spelling difficulties) and to handle basic computational problems. Many of the respondents also expressed concern about the limited number of questions employees ask: many new employees preferred to "try to get by" rather than ask a supervisor or co-worker for assistance.

Only one employer did not feel basic skills to be a major problem among new employees. However, this person's organization requires prospective employees to pass a stringent application test before even

being considered for a position. The test is apparently effective, as this supervisor said individuals hired in her department have had adequate training in essential skill areas.

Work Attitudes. Another frequently mentioned problem was the poor work attitude exhibited by a large number of persons hired for entry level positions. Comments such as "They behave as if they have a right to a job" and "New employees aren't willing to start at the bottom and work their way up," are typical of the responses employers gave to this question. Additionally, employers expressed concern over laxity in work habits. They indicated many new employees are frequently late to work and lack motivation.

There was general agreement that schools need to do a better job in teaching students about the importance of good work habits. Almost all respondents felt this to be an area where the schools are presently failing.

Understanding the Business Environment. The employers also suggested that new employees do not appear to understand how business operates. They all expressed frustration with this lack of knowledge. One said "many of these people think that large businesses have a profit margin of 30 to 40 percent." Many believed employees were ignorant of the business environment because their teachers were. The employers indicated that teachers need more information and possibly more experience in the world of private enterprise to understand how a business operates. All felt that students should be taught more about the world of business before graduation.

A related concern expressed by three of the personnel officers was a general inability on the part of new employees to cope with "real life" situations such as applying for a driver's license and managing their money intelligently.

Each respondent was asked to describe the type of training, other than orientation, their business provides to new employees with less than a four-year college degree. Responses were given in the following five categories:

a. On-the-job training (OJT)
b. Classroom training
c. Off-site training
d. Apprenticeship programs
e. Others

On-the-Job Training (OJT). Descriptions of OJT programs varied considerably. There appeared to be a distinction between formal OJT programs and the actual length of time it takes a new employee to become fully productive in the new position. All companies have formal OJT programs that last from two or three days to more than a month. In addition, employers indicated that the end of formal OJT programs did not mean training was completed. For example, one supervisor who is responsible for the management of a large multi-story building in Portland said he expects it to take five to six years for new employees to fully understand all job functions. Similarly, in one of the lumber mills, a personnel officer indicated that it takes two to five years for many mill workers to become fully productive.

The distinction between formal OJT programs and general supervision of new employees is important. Although not part of a formal OJT program, this supervision is clearly considered part of the training program for new employees.

In a number of firms, particularly those engaged in high-technology manufacturing, OJT is often a continual process due to rapid changes in the manufacturing process. In these companies, it's necessary to retrain workers each time a change is made in the goods being produced. Therefore, OJT is more than a job entry program; it is continued throughout an employee's tenure with the company.

Classroom Training. Many companies provide classroom training for employees. This training is not limited to new employees; it appeared to NWREL interviewers that the classroom programs are designed to teach new job skills to any employee wishing to learn them. While classroom training is therefore an important part of the training provided by these companies, it is not solely for the benefit of new employees.

Many of the firms also encourage employees to take classes that will help them learn other aspects of the business to increase collaboration and understanding among the various company segments. Generally, classroom programs operated by these firms are devoted to subjects related to the products and services provided by the company or to subjects that help individuals within the company improve their particular job skills.

Finally, all companies in the study have a tuition reimbursement program for their employees. All pay half the tuition costs of any college course completed by an employee, up to a specified maximum expenditure per employee per year. In addition, two of the firms will pay the full costs, tuition, books and other expenses of any courses that are directly job related. Each employer indicated these tuition reimbursement programs are valuable and that courses which are not directly job-related are valuable in terms of providing the company with better-educated employees.

Off-Site Training. The firms included in the survey do use off-site training programs as a vehicle for providing skills for their employees, although not as frequently as they use on-site training programs or tuition programs. Off-site training programs are generally vendor-provided programs to help employees learn about new equipment purchased by the firm. Courses are sometimes provided by industry umbrella groups such as the American Institute of Banking. Technical conferences are also used to help develop skills for employees. However, none of the companies utilize this type of training to provide skills to entry level employees.

Apprenticeship Programs. Few of the companies are involved in apprenticeship programs for employees. This appears to be largely a result of limited unionization. Most apprenticeship programs are operated in conjunction with unions. For those firms with apprenticeship programs, enrollment is limited to no more than one or two individuals at a given time. This is primarily due to the poor condition of Oregon's economy and will undoubtedly change as financial conditions improve. Each of the apprenticeship programs discussed was very specific to the particular employer involved and generally lasted two to four years.

Others. Other training opportunities mentioned by respondents were programs provided by the company to improve specific skills such as language arts training, or to provide skills, particular to an industry, such as the operation of a power plant. In all instances, these programs took the form of classroom training or on-the-job training.

When asked in what areas they felt additional training was needed, respondents suggested the following:

a. Computer literacy
b. Emphasis on the need for retraining and "lifelong learning"
c. A better understanding of how business operates
d. Basic economics
e. Basic written and oral communications skills
f. The ability to budget time effectively

When asked who should be responsible for performing these additional training functions, most of the respondents said such areas as computer literacy, the ability and/or willingness to learn new skills and basic communications skills should be the responsibility of educational institutions. Other areas such as basic economics, particularly as it relates to the operation of private enterprise, as well as better understanding of business and industry practice should be, at least in part, the responsibility of private business.

Interestingly, all respondents felt it was the schools' responsibility to provide individuals with the "basics," and that it was the employers' job to provide the specific technical skills individuals need to do their job. One person interviewed stated, "If a person comes to us well grounded in the basics, we will give that person the technical knowledge necessary to be successful."

Respondents were asked what changes, if any, should be made in the high school general and vocational curriculum in response to emerging technological advancements. Employers indicated that while teaching computer literacy is important in both a general and vocational curriculum it should not be taught at the expense of teaching the basics.

Most respondents suggested that both general and vocational curricula should ensure that students have the ability to express themselves clearly both orally and in writing. In addition, all respondents felt that a general understanding and/or awareness of computers and their operations and capabilities were important parts of the high school curriculum. One individual said it's important not only to teach students about computers but to show them why they should learn data processing concepts. This individual felt that a program was needed to help students understand how important computers are to the daily operation of most businesses.

In terms of vocational programs at the high school, the respondents were generally favorable to current offerings, although a number indicated it would be impossible for high schools to keep up with the rapid changes in technology. Therefore, these individuals felt that at the high school level, vocational programs should stress the importance of basic skill areas. It was suggested that the community colleges have been more successful in keeping up with technological changes, and that these institutions are probably a better place to make that effort. One respondent said that, in his opinion, better tax incentives should be offered for businesses to donate equipment to schools at all levels.

When respondents were asked what ways their companies work with schools to support vocational education, a number of answers were received. These included providing speakers and/or booths at "career day" activities, speaking to individual classes when requested, participating in Junior Achievement programs, serving on community college advisory boards, helping teachers at the high school or community college develop curriculum and instructional materials, sponsoring an explorer scout unit, donating equipment and/or money for programs and providing summer job programs. In addition, one of the supervisors has worked with the technology training program operated by Chemeketa Community College at the Oregon State Prison and has hired a number of program completers at his firm.

Each of the respondents felt that company contributions had been effective in fostering relations between educational organizations and private business. However, all wished it were possible to do more with the schools. Some said the structure of the firm made it difficult to initiate such activities, although more respondents felt school officials were reluctant to ask for or accept help from private business. Many expressed frustration with school staff who, they claimed, tried to obstruct progress because they feel they understand better what students need than do people in business. That schools should ask for assistance was a common response. All seemed open to helping as much as possible. Most respondents felt it was the responsibility of the schools to develop communications between business and industry and the responsibility of business to respond to school requests for assistance.

When asked if there were other areas in which their company could or would support education, respondents gave a variety of responses. Three of the respondents indicated they felt their companies already did much in this area and couldn't think of additional ways to support vocational education. A number of supervisors suggested that schools should be helped to develop programs that would train individuals with skills to meet programmatic needs. One respondent indicated that because of the nature of hiring, the companies' worked primarily with the four year colleges; he felt there was little else they could really do with elementary and secondary schools.

Several respondents said their company's need for new employees was a major factor in the role they expected to play in the schools. Therefore, if the economy improves, and these companies begin to increase their hiring, they may be more willing to work with the schools to ensure a supply of individuals with the training desired.

When asked to suggest ways to improve the relationships between business and education, the most common response was that schools need to focus more on preparing students for employment. All felt that it would be important for educators and representatives of private business to develop better communications with each other. One respondent even suggested establishment of an ombudsman-type position, although no suggestion was given as to where such a person would be located or the terms of employment.

One supervisor expressed concern about the attitude of many school counselors who try to place individuals who "just need a job" rather than devoting energy to finding students whose interests match the needs of the employer. This supervisor, as well as others, felt that the school counselors devote too much energy to college bound students and do not provide adequate counseling to noncollege bound students. As a result, many entry level employees do not really know whether or not they will like the work to which they are assigned. One respondent suggested programs where students work in a variety of settings for a few hours a day as part of the school program. This would help develop a better understanding of work in a particular area on a full-time basis.

Finally, respondents were asked what they think is needed to improve the performance of local high schools in response to the growing discussion on excellence in secondary education. A frequent reply was that schools should pay teachers more, although none of the respondents proposed any solutions for financing. Other suggestions included:

a. Establish year-round schools
b. Do a better job of teaching the basics at the elementary level
c. Develop stricter graduation requirements
d. Establish stricter discipline in high schools
e. Have higher expectations for students, both in the schools and at home
f. Give teachers a better understanding of how business operates
g. Develop standards of respect for teachers; students must maintain those standards
h. Increase the technical offerings for noncollege bound students

Mail Surveys

Companies Represented

Oregon Employer Survey questionnaires (see Appendix B for a tabulation to each question) were mailed to 1,547 employers throughout the state and 814 (53 percent) were returned. A postcard follow-up and a second mailing of the form were used to improve the response rate. Among the employers not responding, 5 had gone out of business and 54 indicated it would not be appropriate for them to respond. Seventy-six percent of the surveys were completed by company executives, nine percent by supervisors and the remainder by "other." The majority of the "other" respondents did not provide their titles. Some indicated they had not hired anyone in the past three years and/or were not familiar with vocational education. Of the employers responding, only a third considered themselves familiar with vocational programs located in their business community.

The size and types of companies responding to the questionnaire are shown in Tables 4 and 5. Most frequently represented were companies employing 10 to 49 people and those involved in services and wholesale and retail trade. A more detailed breakout of employers based on the Oregon Employment Division records shows the following percentages: agriculture, forestry, fishing 4 percent; mining 1 percent; construction 3 percent; manufacturing 13 percent; communications, transportation,

public utilities 6 percent; wholesale and retail trade 22 percent; finance, insurance, real estate 5 percent; services 20 percent; federal government 6 percent; state government 5 percent; and local government 16 percent. Table 6 shows the geographic distribution of employers responding to this survey. All regions of the state were represented in proportion to the number of companies in each region.

TABLE 4

SIZE OF COMPANIES RESPONDING TO THE SURVEY

Number of Employees	Percentage of Sample
Fewer than 10	23
10 to 49	30
50 to 249	25
250 or more	19

TABLE 5

CATEGORY OF EMPLOYERS RESPONDING TO THE SURVEY

Type of Employer	Percentage
Services (such as restaurant work)	21
Wholesale and retail trade	15
Government	13
Manufacturing	11
Communications, transportation, utilities	6
Agriculture, forestry, fisheries	6
Finance, insurance, real estate	4
Mining and construction	4

TABLE 6

DISTRIBUTION OF EMPLOYERS BY REGION OF THE STATE

	Region	Number of Employers	Percentage of Employers
1.	Baker, Union and Wallowa	40	5
2.	Linn, Benton and Lincoln	49	6
3.	Clackamas, Multnomah, Washington and Columbia	179	22
4.	Clatsop	35	4
5.	Coos and Curry	36	4
6.	Crook, Deschutes and Jefferson	42	5
7.	Douglas	47	6
8.	Gilliam, Grant, Hood River, Sherman and Wheeler	35	4
9.	Harney and Malheur	33	4
10.	Jackson and Josephine	59	7
11.	Klamath and Lake	39	5
12.	Lane	44	5
13.	Marion, Polk and Yamhill	66	8
14.	Umatilla and Morrow	36	4
15.	Tillamook	24	3
16.	Wasco	34	4

Hiring the Vocationally Trained

Employers were asked how many employees they hired from high school or community college vocational programs, private vocational schools or federally-funded employment and training programs. Only a quarter of the employers reported hiring people from such programs. Table 7 shows the average number of employees hired in relation to the size of the company. Employers leaving this question blank were assumed to have hired no one from such programs. Most vocational and training program completers were hired by companies with 50 or more employees. Table 8 shows the employment pattern by type of business. Services and manufacturing were the types of industries hiring the largest number of program completers although the pattern differs noticeably across the four programs.

TABLE 7

AVERAGE NUMBER OF VOCATIONAL EDUCATION COMPLETERS HIRED BY SIZE OF COMPANY

Size of Company	Proportion of Sample	High School	Community College	Private Voc. School	Employment & Training Prog.
1-9	23%	.45	.46	.04	.34
10-49	30%	.50	.32	.16	.68
50-249	25%	2.14	2.61	.22	1.86
250 or more	19%	2.19	4.72	.54	2.73

Number of program completers hired differed significantly for all four sources of training when reported by the size of the companies responding

TABLE 8

AVERAGE NUMBER OF PROGRAM COMPLETERS EMPLOYERS REPORTED HIRING FROM VOCATIONAL PROGRAMS IN THE PAST YEAR BY TYPE OF BUSINESS

Business Type	From Community	From High Schools	From Private Vocational Schools	From Employment & Training Programs
Mining or construction	.1	.2	.3	.9
Manufacturing	1.9	2.4	1.5	1.4
Communications, transportation, utilities	2.3	1.2	.2	.1
Wholesale and retail trade	.7	1.5	1.0	1.0
Finance, insurance, real estate	.5	1.5	.9	.2
Services	4.3	1.0	2.0	1.4
Agriculture, forestry, fisheries	.4	1.2	.4	2.4
Government	1.6	.8	.8	2.7
Other	.9	1.0	.5	.9

Employee Problems

Employers were asked to indicate which of 12 problems reported in other studies were serious problems their company had experienced with a substantial number of new employees (without regard for type of school program they had attended). A quarter or more of the employers identified the following problems: lack of acceptable work values, habits and attitudes, lack of job skills and knowledge, inadequate writing skills, excessive tardiness and absenteeism and lack of work experience. Table 9 shows the percentage responses to the most serious problems. Inadequate math skills (18 percent) and reading skills (15 percent) were reported less frequently.

TABLE 9

PROBLEMS IN NEW EMPLOYEES REPORTED MOST FREQUENTLY BY EMPLOYERS

Problem	Percentage
Lack of acceptable work values, habits and attitudes	52
Lack of job skills and knowledge	31
Inadequate writing skills	27
Excessive tardiness and absenteeism	25
Lack of work experience	25

Entry-Level Requirements

Employers identified the minimum requirements they had for entry-level positions. Previous work experience (60 percent), high school diploma (35 percent), demonstration of competency (31 percent) and GED (30 percent) and vocational or technical training (22 percent) were mentioned most often. Ninety percent of the companies said they provide employees with on-the-job training, 28 percent with classroom training, 24 percent with off-site training and 11 percent with some form of apprenticeship.

Fewer than a third of the businesses surveyed reported hiring any vocational program completers in the past three years. Of that group, 26 percent of the employers have hired people with vocational training from community colleges, 27 percent from federally-funded employment and training programs, 23 percent from high school and 8 percent from private vocational schools. One portion of the survey that was difficult for most employers to complete requested information about the area in which vocationally trained employees had received their training. The most frequently listed area was health occupations, which probably reflects the fact that employers in this field are more aware of what prior training their new employees have had.

Employers were asked to rate the technical skills, work attitude, work quality and overall satisfaction with vocational completers from each of these four sources. In general only 10-25 percent of the employers felt able to rate the performance of these program completers. Program completers from community colleges and private vocational schools were rated highest (2.0 on a five point scale with 1 = very good and 5 = very poor), followed by high school (2.4) and employment and training programs (2.7).

More specifically, employers were asked to rate 13 skill areas or attributes of program completers trained by the four types of programs. Responses are shown in Appendix B. In considering these ratings it is useful to keep in mind that generally less than 10 percent of the employers felt able to make these judgments.

Vocational Priorities

The survey included nine statements about vocational education for individuals under 20 years of age. Employers were asked to rate the importance of each statement as high, medium or low. More than 40 percent of the employers identified four recommendations as highly important: (1) assure that individuals who do not go on to college have marketable skills (70 percent); (2) improve the courses and programs currently offered (53 percent); (3) provide cooperative opportunities to learn at the business site (48 percent); and (4) be more supportive of economic development (44 percent). Only 18 percent of the employers felt it highly important to add courses so that more students can enroll.

For vocational students, over 20 years of age, there were seven recommendations rated on the same scale as highly important: (1) assure that individuals who do not go on to college have marketable skills (65 percent), (2) assure that older workers have access to training for entry or reentry into the job market (57 percent); (3) improve the courses and programs currently offered (52 percent), (4) provide cooperative opportunities to learn at the business site (49 percent), (5) be more supportive of economic development (45 percent), (6) upgrade present workers with thorough retraining (43 percent) and (7) add courses to provide training in more occupations (41 percent).

Business Support for Vocational Education.

A final area of this survey explored both ways in which businesses are currently working with schools to support vocational education and the nature of assistance they would be willing to provide. Types of support that have been identified in other studies or were suggested by our steering committee were listed in the survey (Table 10). A third of the employers stated that their companies are currently providing vocational students with work experience; and at least 20 percent of respondents were serving on advisory committees and recommending what to teach in vocational courses.

At least a third of the employers indicated willingness to serve on advisory committees, recommend what to teach in vocational courses and suggest new vocational courses. The number of employers willing to work with the schools was greater than the number currently doing so in all

areas of potential support except in their willingness to provide equipment and materials. In a discussion with employers at the Associated Oregon Industries annual conference this fall, members explained that this reluctance to provide equipment and materials is due largely to the lack of adequate tax incentive under existing Oregon legislation. They recommended new legislation that would provide such a tax incentive. In four areas at least twice the number of employers were willing to support education than were currently doing so: recommending equipment and materials to be used, reporting employment status and job performance of vocational completers, helping to select new vocational teachers, and releasing employees to teach vocational courses.

TABLE 10

AREAS WHERE BUSINESSES ARE OR WOULD BE WILLING TO WORK WITH SCHOOLS TO SUPPORT VOCATIONAL EDUCATION

	Current	Willing to
Suggesting new vocational courses	18	33
Recommending what to teach in vocational courses	22	39
Recommending equipment and materials to be used	13	26
Providing equipment and materials	12	11
Designing facilities	3	6
Providing facilities	13	13
Providing vocational students with work experience	31	39
Reporting employment status of vocational graduates	11	26
Evaluating vocational graduates' job performance	14	32
Serving on advisory committees	24	40
Providing teachers with job skill improvement	7	16
Helping to select new vocational teachers	5	12
Releasing employees to teach vocational courses	10	20
Providing training programs for the education community	9	15
Providing training for apprentices	13	18
Providing training for journeypersons	6	8
Requesting references from school staff before hiring a vocational trainee	19	29

Recommended Curriculum Additions

In an open-ended question, employers were asked to identify specific curriculum topics they would like to see added to vocational education programs that would be useful to people they might consider hiring. Table 11 summarizes the most frequent responses. Employers were also asked to suggest specific areas of training they would like to see made available for current employees. Their responses are summarized in Table 12. It is interesting to note that basic skills, computer literacy and work values were the three most frequently given responses to both questions.

TABLE 11

RECOMMENDED CURRICULUM TOPICS TO ADD TO VOCATIONAL PROGRAMS
THAT WOULD BE USEFUL TO PEOPLE YOU MIGHT HIRE

Topic	Number of Employers
Basic skills (i.e., reading, writing, math)	50
Computer literacy	31
Work values	29
Office procedures	15
Communications	15
Word processing/typing	14
Marketing/sales	10
Public relations	10
Medical courses	10
Electronics	8
Job seeking skills	6
Management	4
Restaurant/foods	4

TABLE 12

RECOMMENDED AREAS OF TRAINING FOR
YOUR COMPANY'S EXISTING EMPLOYEES

Area	Number of Employers
Computer skills	33
Basic Skills	24
Work values	15
Electronics	12
Management	11
Sales/marketing	10
Public relations	10
Stress management	5
Time management	4
Restaurant/food	4

TABLE 13

SUGGESTIONS FOR IMPROVING VOCATIONAL EDUCATION PROGRAMS

Suggestion	Number of Employers
Work more closely with business people	64
Offer classes that can be more realistically applied	62
Stress the 3R's	45
Better publicity about vocational education	34
Improve students' attitudes	24
Add cooperative work study opportunities at business sites	23
Better communications	22
Find out what business needs and supply it	22
More emphasis on vocational education in schools	13
Need better trained instructors	11
More funding	11
Improved math skills	7
Better job placement coordination	6
Encourage active advisory committees	6
More business world experiences for teachers	6
Better assessment of students' career choices	6
Avoid training for obsolete jobs	5
Improve oral communications	5
Involve business people in developing curriculum	5
Train for specific openings in the local job market	5

Suggestions for Improving Vocational Training

Areas for improvement in the relationships between the private sector and education and training agencies were identified. Ten to 15 percent of the employers expressed the need for better communication between agencies and for training agencies to respond in a more timely fashion to the changing needs of business and industry.

When respondents replied to an open-ended question requesting suggestions for improving vocational education, over 350 ideas were recorded and analyzed. Employers most frequent responses are shown in Table 13. Perhaps as important as their individual responses is the fact that so many employers took time to write down their ideas. Most frequent suggestions include that vocational educators improve communications with business people and listen to their training needs, increase public awareness of vocational programs, and improve basic skills and work attitudes of students. Those listing particular basic skills mentioned math and oral communications at least five times while reading, writing and computer literacy were listed only several times.

Here are a few direct quotes from the mail survey to give a sampling of the employers' diverse opinions:

> "Traditional vocational training in wood shop, automotive, although of interest to students are of little job value. A student aware of safety, work rules, loyalty, reliability, timelines and appearance would gain more."
>
> "Find out what business needs in an employee and what the real expectations are for a job after training. Then go for it!"
>
> "The educational community and business need to share equipment and facilities for vocational training. Business has the capital to invest in computers and equipment; schools have the students. A natural merger for the two."
>
> "Instead of making vocational education available to all, make it difficult (screen out) to get in and enforce a high standard to complete the program."
>
> "Use of an employee survey (much like this) to determine education needs of <u>existing</u> employees."
>
> "Provide <u>better</u> <u>publicity</u> on the intent, availability and benefits--benefits both for the trainee and the businessman."

"One reason we've refused to be involved is the high volume of paper work."

"Provide assistance to business in training persons they find qualified. So often persons in training programs really don't want to be there. Recognize fact that some people are just plain 'unemployable.'"

"I honestly did not know we had vocational education in Oregon!"

"Work more closely with the instructors of the vocational program. I have never been approached about working with a particular program, and I would be willing to do so."

SPECIAL ANALYSES

In addition to the analysis of total employer responses, a number of analyses of variance runs were made to determine if employer responses differed by company size, standard industrial classification or geographic location in Oregon. The results are summarized below.

- No significant differences were found in overall rating of employees with previous vocational training when analyzed by company size, standard industrial classification (SIC) or geographic areas of the state (with one exception). Some geographic areas rated community college vocational completers more highly than other areas.

- No significant differences were found in employer rating of how up-to-date the vocational or training progam courses were when analyzed by company size, SIC or region of the state with one exception. Vocational courses at the community college level were rated as signficantly more up-to-date by companies with 50 or more employees than by smaller companies.

- Companies with 50 or more employees reported hiring more vocational completers from high schools, community colleges and employment and training programs. At the high school level, business and office occupations students were hired most frequently by companies with over 250 employees.

- Sixty-eight employers were selected for this study because they employed a relatively large number of community college vocational completers. This group reported hiring a significantly larger number of employment and training program completers than did the random sample of employers. However, when the specially-selected employers rated the quality of training received by program completers they hired, responses were not significantly different from the ratings made by the random sample of employers.

CONCLUSIONS AND RECOMMENDATIONS

The willingness of vocational and training program staff to work with business people may be one of the best kept secrets not only in Oregon but in the rest of the country. Attention has been focused over the past several years on the need for cooperation between vocational education, employment and training programs and the private sector. Excellent examples of close collaboration exist. Nevertheless, the results of this study highlight the need for better communications and suggest some concrete areas where the business community is willing to pitch in. Recommendations from this study are focused on four groups: (1) vocational and training administrators, (2) employers, (3) legislators and (4) vocational researchers.

1. Vocational and Training Program Administrators

As one employer said. "I honestly did not know we had vocational education in Oregon!" This employer is certainly not alone. Two-thirds of the employers surveyed said they were not familiar with vocational programs. Vocational administrators and staff have a continuing obligation to provide better information to employers. The Oregon Department of Education could take leadership by developing and distributing an employer guide to vocational education in Oregon. A 3-10 page attractive brochure could include the purposes for vocational education, description of the types of programs available in Oregon, ways employers could work with schools to establish new courses needed by their employees, how businesses can work to strengthen vocational education, the benefits to both the trainee and to businesses and a person and telephone number to contact for further information.

Four areas were identified in this survey where at least twice the number of employers were willing to support education than were currently doing so. These areas were: recommending equipment and materials to be used, reporting employment status and job performance of vocational completers, helping to select new vocational teachers and releasing employees to teach vocational courses. These suggest fruitful areas for new cooperation between business and education.

The most serious problem noted by employers in their new employees is a lack of acceptable work values, habits and attitudes. While this problem exists in students prior to high school, there are solutions that some high schools and training programs have used with success. Establishing a consistent policy, agreed upon by all staff, about expectations for young people regarding attendance, work performance level and acceptable behavior while in these programs has been successful. Expectations are communicated clearly to young people and rewards or sanctions are applied to support these expectations. Our steering committee felt that employers have a shared responsibility in helping young people form positive work attitudes. As young people go to employer sites for work experience, employers can establish clear expectations, enforce them, and show young people the rewards and penalties related to these expectations which occur in the workplace. At the same time, it is helpful for employers to find out what young people expect of the workplace so that accommodations can occur on both sides.

Employers in both the largest companies in Oregon and in the statewide sample of employers surveyed by mail indicated a problem of new employees with basic skills. Employers were critical of the ability of new employees to read written directions, communicate effectively in writing and handle basic computational problems. These same problem areas are not unique to Oregon but are being reported throughout the country. While it would be unfair to assume that vocational staff are solely responsible for these deficiencies, it does seem appropriate to expect that they be partners in helping to resolve the problem. The Oregon Department of Education has shown initiative in funding several projects to develop improved reading and math skills within vocational curricula. Such programs need to be used more widely in Oregon high schools and shared with employment and training programs that could implement them. Members of our steering committee recommended stronger cooperation between high school academic and vocational teachers in designing new ways to integrate math and English competencies into vocational courses. This could result in students satisfying some required academic graduation requirements by successfully completing vocational courses containing well integrated basic skills components.

Some of these deficiencies in basic skills might also be reduced by the use of competency tests to assess a young person's performance at various age levels in basic skills. These competency results could be shared by high schools, employment and training programs, private vocational schools and community colleges. As a young person transferred across these programs his or her performance could continue to be monitored and improvements made when needed. Research shows, for example, that the greatest discrepancy in basic skills performance between economically advantaged and disadvantaged students occurs with deterioration over the summer months. Thus, with good coordination, a summer youth employment project might also spend some time reinforcing basic skills development in work settings during the summer months.

2. Employers

Representatives of Oregon's largest corporations felt that basic skills and computer literacy should be the responsibility of educational institutions. Other areas such as basic economics, particularly as it relates to the operation of private enterprise, and understanding of business practices should be a responsibility shared with private business. Business people might review those aspects of the curriculum to suggest improvements or provide experienced staff to teach units on these topics.

Some employers expressed the belief that vocational education could be improved if vocational teachers had more experience in the business world. Over the past several years, there has been a growing interest expressed by some vocational instructors to work in private industry, especially during the summer months. Businesses willing to consider such placements should contact local schools or the Oregon Alliance for Program Improvement at Oregon State University to explore these possibilities.

Better job placement coordination of vocational and training program completers was mentioned by some companies. While the schools and training programs need to take a lead in this activity, businesses could assist by contacting vocational programs to inform them of their specific needs for training with as much lead time as possible.

3. Legislators

Various business people have expressed the feeling that new legislation regarding state tax credits is needed to encourage the private sector to donate up-to-date equipment to vocational training programs. Examples have been given where a large computer firm donated a number of new computers to schools in California but did not do so in Oregon because the tax credit incentives in California were much more attractive. Tax credits or other incentives would also be useful in encouraging employers to provide: (1) released time for selected employees to teach an advanced vocational class, (2) internships whereby vocational instructors could upgrade their technical skills at a job site, and (3) greater participation in cooperative education programs whereby students receive supervised work experience at employer sites.

Some employers in this study expressed the position that more funds are needed for vocational training and that funding should be made more stable from year to year. Since a majority of employers feel that vocational education should assure that individuals who do not go on to college have marketable skills, it becomes important that adequate funds be provided to accomplish this objective. To maintain highly qualified vocational instructors, it may be necessary to pay those in highly competitive fields salaries higher than those of a regular classroom teacher.

4. Researchers

The combination of personal interviews with representatives of the 10 largest companies in Oregon and survey questionnaires mailed to a large sample of employers throughout the state has proven to be a cost-effective strategy. It also allowed us to combine the quantitative data from the mailed surveys with the more open-ended and insightful opinions expressed in the hour-long interviews. The use of some common questions for both groups has allowed us to validate the findings. Thus, we would recommend this combined strategy for future use.

Using a statewide sample of employers, in lieu of a sample restricted to those who are familiar with vocational education, allowed us to gather information on some issues otherwise not attainable. For example,

results indicate that two-thirds of the responses were not familiar with vocational education efforts in the state.

Several members of the steering committee recommended that the findings of this study be used as baseline data from which to measure improvement in employer awareness and acceptance of vocational and training programs. They suggested intensive effort over the next two years to communicate to employers what vocational and training programs can do to help them followed by a resurvey of employers to determine if their attitudes have changed.

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APPENDIX A

OREGON LARGE EMPLOYER INTERVIEW GUIDE

The Northwest Regional Educational Laboratory in cooperation with the Oregon Department of Education and the Oregon Employment Service is conducting a study of Oregon businesses to determine perceptions of their training needs, of vocational education programs in the state, and of their willingness to work together with schools to support vocational education. Fifteen hundred businesses are being randomly sampled to receive a written questionnaire. However, since your corporation is one of the ten largest in the state, we want to have personal interviews at your company. The information collected on each company will be kept confidential and only summary information across the ten largest corporations will be reported. The information being collected by our Laboratory will be used by leaders in business and education to improve vocational programs within the state. A summary of the findings will also be discussed at a session of Associated Oregon Industries at their conference in September.

Record the interviewee's name, position, corporation, and major category (SIC) of the company.

1. Over the past three years, approximately how many former vocational education students has your company hired from the following levels:

	Directly	With Interim Experience
a. High school	____	____
b. Community college	____	____
c. Private vocational schools	____	____
d. Employment and training programs	____	____
e. Apprenticeship programs	____	____

2. How would you rate the job performance of former vocational education program students from each of these levels? The choices are very good, good, fair, poor or very poor. (Leave blank if they don't know about a particular level.)

a. High school	VG	G	F	P	VP
b. Community college	VG	G	F	P	VP
c. Private vocational school	VG	G	F	P	VP
d. Employment and training programs	VG	G	F	P	VP
e. Apprenticeship programs	VG	G	F	P	VP

3. In what vocational area have these individuals generally received training?

   a. Agriculture and forest products ____
   b. Business and office ____
   c. Distributive education ____
   d. Health occupations ____
   e. Home economics occupations ____
   f. Technical ____
   g. Trade and industry ____
   h. Other (please specify)_____

4. As you think about the new employees your company has hired in the past, have there been some common problems or inadequacies in the skills, attitude or performance in these new employees? If yes, what problems?

5. How much and what kinds of skill training (other than orientation) does your business usually provide initially to new workers who do not have a college degree?

	Number of days (if training is provided)
a. On-the-job training	____
b. Classroom	____
c. Off-site training	____
d. Apprenticeship	____
e. Other (specifiy)_____	

6. What types of training content are provided (i.e., technical skills, communication skills, etc)?

7. Are there other types of training that you feel are needed for a number of new employees? If yes, what?

8. What agencies do you see as most appropriate to perform these training functions? Why?

a. High school	____
b. Community college	____
c. Private vocational schools	____
d. Employment and training programs	____
e. Apprenticeship programs	____
f. Your business	____

9. Some people feel that with the technological changes our country is experiencing, high schools should be doing a better job of preparing people for the world of tomorrow.

   a. What changes, if any, do you feel should be made in the basic high school curriculum?

   b. What changes, if any, do you feel should be made in vocational education at the high school level?

10a. Another area receiving considerable public attention in recent years is the cooperation between business and education. In what ways, if any, does your company work with schools to support vocational education?

10b. How would you rate the effectiveness of each contribution?

11. Are there other ways you feel your company would be willing to work with schools to support vocational education? If yes, which?

12. Are there ways you could suggest for improving the relationships between business and education training agencies?

13. Over the past six months, there has been a great deal of discussion on excellence in secondary education.

    a. What do you think is needed to improve the performance of your local high schools?

    b. How could this/these be accomplished?

14. Do you have any closing thoughts on your company's training needs or on the condition of vocational education in Oregon?

Thanks for your time!

Business Survey

RETURN TO:

OREGON EMPLOYMENT DIVISION
Research and Statistics Section
875 Union Street N.E.
Salem, OR 97311

EDUCATION AND WORK PROGRAM

Northwest Regional Educational Laboratory
300 S.W. Sixth Avenue
Portland, OR 97204

OREGON BUSINESS SURVEY

(814 employers responded)

This survey will be used to provide valuable information to educators, employers and state legislators to help improve vocational education in Oregon. Your responses will be grouped with those of other employers and individual responses will be kept strictly confidential. Thank you in advance for helping with this study.

76% executives, 9% supervisors, 15% blank or other

Title or position of person completing this questionnaire

Organization

Address (including Zip Code)

1. Which of the following are serious problems your company has experienced with a substantial number of new employees in your business? (Circle the number for each problem you experience)

	%
Lack of job skills and knowledge	31
Lack of acceptable work values, habits and attitudes	52
Inadequate reading skills	15
Lack of job/work experience	25
Excessive tardiness and absenteeism	25
Failure to comply with company rules	11
High turnover	17
Inadequate writing skills	27
Excessive use of alcohol and/or drugs	10
Low productivity	21
Inadequate math skills	18
Abuse/theft of business property	8
Other (please specify (see attached sheet)	6

2. What are the minimum training and educational requirements for most entry-level positions in your business? (Circle all that apply)

None	28
High school diploma	35
GED or other high school equivalent	30
Some skill training in vocational or technical education	22
Completion of a course of study in vocational or technical education	15

*Please ignore the numbers in parentheses; they are for data processing purposes only.

	%
Demonstration of competency	31
Competency certificate	6
Previous work experience	60
Community college or technical school	13
Licensing	14
Journeyperson status	7
Other (please specify) (see attached sheet)	11

3. How much and what kinds of initial skill training does your business usually provide to new workers that do not have a four year college degree? (Mark the appropriate line for each type of training.)

	Amount of training (in days)					
Kind of training	Not Provided	Less than 1	1-5	6-15	More than 15	Ongoing
On-the-job training	3*	3	16	10	9	52
Classroom	18	4	10	4	4	6
Off-site training	20	3	9	2	2	8
Apprenticeship	24	0	1	1	2	7
Other (please specify) (see attached sheet)						

*Percentages adjusted for missing data.

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	A High School Vocational Education	B Community College Vocational Education	C Private Vocational School	D Federally Funded Employment and Training Programs
4. Has your business hired any employees from the programs shown on the column headings in the past three years? (Answer questions 5-9 only for those programs to which you circled Yes. If you are not sure about a particular program, please leave it blank.	23% Yes No	26 Yes No	8 Yes No	27 Yes No
5. Approximately how many people from these programs were hired in the past year?	1.2 people (6.4)N156	1.8 (9.2)N157	.2 3.4(N53)	1.3(blanks counted as 6.0 (N174) (Av. for thos who hired)
6. Please rate the vocational training received by people from these programs in each of the following areas by circling 1 to 5 or DK for Don't Know:				
A. Technical Knowledge/Work Skills	%	%	%	%
Very Good	13*	25	24	4
Good	43	59	55	33
Fair	36	14	16	46
Poor	7	2	5	12
Very Poor	1	0	0	6
Don't Know	79	76	92	77
	mean=2.4	mean=1.9	mean=2.0	mean = 2.8
B. Work Attitude				
Very Good	24	30	28	17
Good	41	51	54	39
Fair	26	18	15	30
Poor	8	2	3	12
Very Poor	1	1	0	4
Don't Know	78	76	93	76
	M=2.2	M=1.9	M=1.9	M=2.5

	A High School Vocational Education	B Community College Vocational Education	C Private Vocational School	D Federally Funded Employment and Training Programs
C. Work Quality	%	%	%	%
Very Good	13	23	23	7
Good	48	62	65	44
Fair	36	13	10	36
Poor	3	3	3	10
Very Poor	1	1	0	4
Don't Know	78	76	92	75
	M=2.3	M=2.0	M=1.9	M=2.6
7. Please indicate your overall rating of the training received by people from these programs as it relates to their job requirements.				
Very Good	11	24	26	6
Good	46	55	49	45
Fair	39	17	21	33
Poor	4	4	3	11
Very Poor	0	1	0	6
Don't Know	79	76	92	77
	M=2.4	M=2.0	M=2.0	M=2.7
8. As a result of their training, please rate these employees' preparation for work in relation to other employees of similar age, experience and education in the work group who did not receive such training:				
They are better prepared	40	56	40	19
They are the same as other employees	37	23	23	40
They are less prepared	7	3	4	21
No basis for comparison	16	18	34	19
	(N-192)	(N=209)	(N=80)	(N=212)

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*Percentage adjusted for missing data on questions 6 to 8.

9. Approximately how many of your vocationally trained employees received training in the following program areas?

	A High School Vocational Education	B Community College Vocational Education	C Private Vocational School	D Federally Funded Employment and Training Programs
	•	•	•	•
Agriculture and forest products	24*	12	6	13
Business and office (clerical, secretarial)	95	71	20	73
Distributive Education (food service, marketing)	23	11	2	11
Health Occupations	16	49	7	15
Home Economics Occupations (Child care, clothing)	7	5	0	3
Technical (Electronics/mechanical)	24	55	21	22
Trade and Industry (Construction, Drafting, Graphics, Forest Products)	16	27	1	18
other (specify) _____	14	20	9	23

*Actual number of employers hiring program completers in each area. Left blank by over 90% of employers.

10. Please rate the relative importance of the following statements about vocational education for individuals under 20 years of age. (Circle 1, 2 or 3 for each statement)

	Low	Medium	High	Mean
Add courses, so that more students can enroll.	44	39	10	1.8
Add courses, to provide training in more occupations.	31	37	33	2.0
Improve, update and upgrade the courses and programs currently offered.	12	35	53	2.4
Improve opportunities for the handicapped to receive vocational education.	21	49	30	2.1
Improve opportunities for low-income students to receive vocational education.	23	46	31	2.1
Improve opportunities for males/females in nontraditional careers.	31	40	29	2.0
Assure that individuals who do not go on to college have marketable skills.	8	22	70	2.6
Provide cooperative opportunities to learn at the business site.	30	40	47	2.3
Be more supportive of economic development.	18	38	43	2.2

11. Please rate the importance of the following statements about vocational education for individuals over 20 years of age.

	Low	Medium	High	
Add courses, so that more students can enroll.	36	40	24	1.7
Add courses, to provide training in more occupations.	24	35	41	2.2
Improve, update and upgrade the courses and programs currently offered.	11	38	52	2.4
Improve opportunities for the handicapped to receive vocational education.	20	43	37	2.2
Improve opportunities for low-income students to receive vocational education.	20	44	36	2.2
Improve opportunities for males/females in nontraditional careers.	26	41	33	2.1
Assure that individuals who do not go on to college have marketable skills.	11	24	66	2.6
Provide cooperative opportunities to learn at the business site.	14	37	49	2.4
Be more supportive of economic development.	16	39	45	2.3
Insure that older workers have access to training for entry or reentry into the job market	8	34	58	2.5
Upgrade present workers with thorough retraining	15	43	43	2.3

12. In which of the following ways does your business and/or your employees now work with schools to support vocational education? (Circle all that apply.)

Supporting new vocational courses..... 18

Recommending what to teach in vocational courses..... 22

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Recommending equipment and materials to be used	13
Providing equipment and materials	12
Designing facilities	3
Providing facilities	13
Providing vocational students with work experience	31
Reporting employment status of vocational graduates	11
Evaluating vocational graduates' job performance	14
Serving on advisory committees	24
Providing teachers with job skill improvement	7
Helping to select new vocational teachers	5
Releasing employees to teach vocational courses	10
Providing training programs for the education community	9
Providing training for apprentices	13
Providing training for journeypersons	6
Requesting references from school staff before hiring a vocational trainee	19
Other (please specify)_____	4

13. In which of the following ways do you feel your business and/or employees would be willing to work with schools to support vocational education in the future? (Circle all that apply)

Suggesting new vocational courses	33
Recommending what to teach in vocational courses	39
Recommending equipment and materials to be used	26
Providing equipment and materials	11
Designing facilities	6
Providing facilities	13
Providing vocational students with work experience	39
Reporting employment status of vocational graduates	26
Evaluating vocational graduates' job performance	32
Serving on advisory committees	40
Providing teachers with job skill improvement	16
Helping to select new vocational teachers	12
Releasing employees to teach vocational courses	20
Providing training programs for the education community	15
Providing training for apprentices	18
Providing training for journeypersons	8
Requesting references from school staff before hiring a vocational trainee	29
Other (please specify)_____	2

14. Do you consider yourself to be familiar with the vocational programs in your business community?

33 Yes (Please answer all remaining questions)
67 No (Please skip to question 20)

15. How well do vocational education programs in high schools, community colleges, private vocational schools and employment and training programs prepare their students in each of the following areas? Please respond to each skill area and program level using the following scale:

Very well
Well
Fair
Poorly
Very poorly
Don't know

	High School	Community College	Private Vocational Schools	Employment and Training Programs
Oral communication skills	3.0*	2.6	2.6	3.2
Adaptability	3.1	2.6	2.6	3.0
Reading skills	4.0	2.8	2.8	3.4
Decision making	3.3	2.9	2.7	3.3
Accepting responsibility	3.1	2.8	2.6	3.1
Personal initiative	3.1	2.7	2.5	3.1
Written communication skills	3.4	2.9	2.8	3.4
Work habits	3.2	2.8	2.4	2.9
Getting along with others	2.7	2.5	2.5	2.7
Job application skills	2.9	2.5	2.4	2.8
Math skills	3.1	2.7	2.7	3.4
Computer literacy	3.1	2.8	2.7	3.6
Foreign languages	3.8	3.6	3.7	4.2

*Mean ratings of those responding. Left blank by 70% to 90% of employers

16. In your view, how current are the vocational courses and programs in your business community?

	Completely up-to-date	Moderately up-to-date	Outdated	Don't Know
High School	8**	75	17	65%
Community College	23	69	7	67
Private Vocational Schools	18	66	9	90
Employment and Training Programs	6	70	22	81

**Percentages adjusted for missing data.

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17. What specific curriculum topics would you like to see added to vocational education programs that would be useful to people you might consider hiring?

See attached sheet

(use the back page if more space is needed)

18. What specific areas of training would you like to see made available for your company's existing employees?

See attached sheet

19. In what ways are improvements needed in the relationships between employees and vocational education training agencies? (Place an 'x' on the lines where you feel improvements are needed).

	Improvements should be made for the:			
	High School	Community College	Private Vocational Schools	Employment and Training Programs
Education and training agencies need to work more closely with business and industry.	20	16	7	12
Clearer agreement is needed on vocational training purposes.	14	12	4	10
Clearer agreement is needed on policies or regulations governing the operation of training programs.	7	6	3	8
Better communication is needed between businesses and training agencies.	15	14	7	12
Training agencies should respond in a more timely fashion to the changing needs of business and industry.	15	15	7	12
Other (specify):	1	1	0	1
_____	___	___	___	___

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20. What would be your main suggestion on how to improve vocational education programs in your business community?

See attached sheet

21. Which of the following categories best describes your business? (Circle one.)

Mining or construction	4
Manufacturing	11
Communications, transportation, public utilities	6
Wholesale and retail trade	15
Finance, insurance, real estate	4
Services (e.g., medical, educational, tourist-related	21
Agriculture, forestry, fisheries	6
Government	13
Other (please specify)_____	20

22. Approximately how many people work at your business? If you have various locations, how many people are at your particular site? (Circle one number.)

1-3 people	23
4-9 people	
10-19 people	30
20-49 people	
50-99 people	25
100-249 people	
250 or more	19

Thank you for your assistance in this study.

Responses to Open Ended Questions

Q.1. Which of the following are serious problems your company has experienced with a substantial number of new employees in your business?

Breakout of the "other, please specify" responses.

Response	Number
No serious problems	11
Poor work habits	8
Haven't hired people recently	2
Lack of clerical/typing skills	2

Q.2. What are the minimal trianing and educational requirements for most entry-level positions in your business?

Breakout of "other please specify" responses.

College	14
Professional degree/training	10
Good attitude	9

Q.3. How much and what kinds of initial skill training does your business usually provide to new workers that do not have a four-year college degree?

Breakout of "other, please specify" responses

Orientation	5
Tuition reimbursement	4
College classes	2
Correspondence classes	2
Audio-visual presentations	2